Roland digital RECORDING Connection
A Roland Users Group

TRACK NOTES

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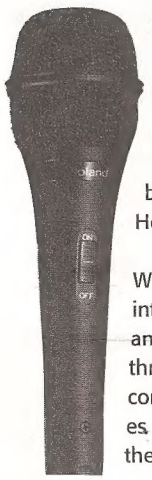
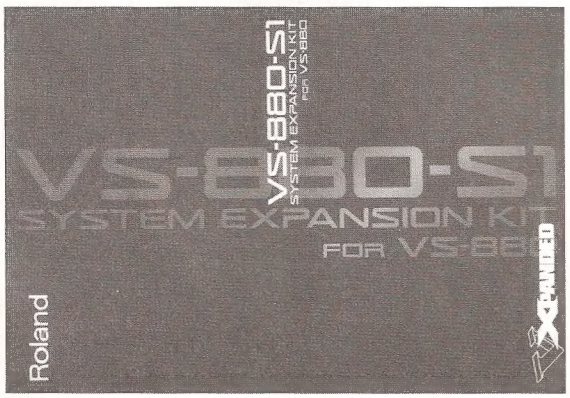
EXPLORING VS-880 "V-XPANDED" SOFTWARE PART 2: THE MICROPHONE SIMULATOR

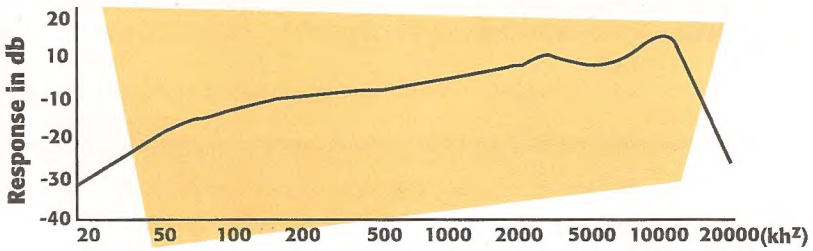


One of the most exciting features of VS-880-S1 software is the COSM-based microphone simulator. This amazing effect simulates the sound of a variety of expensive studio microphones using the signal from a standard dynamic mic. This can be a big plus in a variety of recording applications. Here's some background.

When a sound wave strikes a microphone, the internal elements of the microphone vibrate and create electrical energy that is then sent through a mic cord to a preamplifier. It is this conversion of sound waves to electrical impulses that gives different types of microphones their distinct "sound."

Most microphones output a range of frequencies that include the whole spectrum audible by humans (let's say 40Hz or 50Hz to 15kHz to 20kHz). However, the sensitivity of a microphone to a particular range of frequencies is dependent on its construction. An inexpensive microphone may convert most of the energy it receives at 750Hz, but very little of the energy it receives at 5kHz. More expensive microphones may convert most of the sound spectrum with equal efficiency. Generally, the more expensive the microphone, the more even or "flat" its response will be. This means that an inexpensive mic may sound "dark" because it doesn't convert the higher frequencies as well.





All microphones have a signature sound resulting from how well they convert audio to electricity. Sometimes the mic's characteristics contribute to a "so[illegible]perfect for certain types of recording. For example, many engineers like using a Shure SM-57 on snare drums because it tends to emphasize certain frequencies that make the snare sound fat. A "flatter" mic might actually not sound as good.

So, how does all of this relate to the VS-880's COSM Microphone Simulator? Well, using advanced computer and filter analysis, Roland has mapped out the characteristics of several different popular inexpensive and very expensive microphones. Then, using advanced DSP technology, we've created a processor that adjusts the sound conversion of one type of microphone to match the characteristic conversion of another type of microphone.

The VS-880 Microphone Simulator "knows" what the output of the mic you're using as a source sounds like. It also knows what the output of the mic you want to model should sound like. Therefore, to get the best results, you should use one of the microphones designed as the known input for one of the modeling programs.

The Roland DR-20 mic, for example, will do a great job of converting the sound in the mid-range of the voice. However, the higher frequencies will not be converted as well, and some of the upper notes or harmonics might be de-emphasized. Recording the same voice using an expensive large diaphragm condenser mic, the level of the frequencies might be more balanced, resulting in a warmer, richer sound.

But let's say you record your vocal with a Roland DR-20 microphone and then process the sound through the DR-20>U87 mic simulator (preset number B28).

The VS-880 will essentially re-balance the frequency response of the input sound to the output characteristics of the U87. Frequencies that are not efficiently reproduced by the DR-20 will be boosted to the output level of the typical U87. One way to look at this process is to think of the unprocessed DR-20 as giving the COSM-based mic simulator the "raw material" it needs to reshape the overall frequency pattern to resemble that of the U87.

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This amazing simulator is the equivalent of spending hours with hundreds of very sharp filters matching the exact frequency response of one microphone with another. You can either track with the simulator enabled or record a voice or instrument using the unprocessed mic sound and then tailor the frequency response to that of a different mic. This is a great way to improve the overall sound of your recordings.

Proximity Effect

If you are recording a vocal, the efficiency of the aforementioned audio-electricity conversion is affected by how close the vocalist is to the microphone. If the vocalist is really close to the mic, the lower frequencies are more concentrated and are converted at a higher level. The vocal will sound a bit bassier when the voice is closer to the mic. Different microphones respond differently to this distance or proximity effect.

The VS-880's Microphone Simulator actually models this proximity effect for the different types of microphones supported by the processor. Using the Distance parameter, you can adjust how close the singer is to the microphone AFTER you have done the recording! This is incredible power. It lets you get the "fatter" sound of a very close recording without the usual problem of popped "Ps" or other artifacts that often result when the singer is close to the microphone. And the effect isn't just useful for vocals—use it to add a richer tone to your acoustic guitar tracks, plug in your acoustic-electric directly and experiment with microphone models, fatten up a thin kick drum sound...the possibilities are endless.

Third Party Updates

Cakewalk and the VS-880 Working Together

Those of you at the recent AES trade show in New York were privileged to see a sneak preview of Cakewalk's integration of the VS-880 into their editing environment. Audio files recorded on the PC by Cakewalk were transferred via SCSI into the VS-880. Then the Cakewalk interface was used to edit the MIDI data AND the audio in the VS-880. Parts were moved, sections of the song were edited and the song was arranged. This is very cool because it shows complete integration of the VS-880 into Cakewalk's MIDI environment. The release of the product is scheduled for January or February 1998.

Also at AES

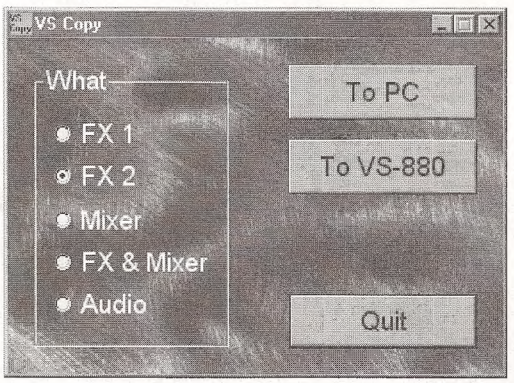
PolarSonic software showed a very mod looking PC-based stand-alone editor for the VS. It has many great features, including a fast way to see all of the effects grouped by type or number and a user customizable editing screen. See the PolarSonic article in this issue for some information on a cool **FREE** utility they are offering via the Internet.

AirWorks also showed their Mac-based utility for the VS. It allows the user to see all of the songs, tracks and phrases in the VS, preview them via computer and then move files from the VS to the Mac and back again.

Some of the VS-880 files used during the AES show were processed using **Bias** Peak software and then transferred back to the VS-880. For example, the female vocal from the song that includes the lyric "manifold choices" (you know the one we mean!) was brought into the Mac, reversed, chorused and pitch shifted using Bias' Peak and then sent back into the song to replace the original phrase. Very cool.

Introducing VSCopy from PolarSonic

PolarSonic's new VS copy is a **FREE** downloadable utility designed exclusively for the VS-880 which lets you transfer audio between your VS-880 and your Windows 95 PC – and share your FX and mixer settings with friends via e-mail.



All you need is Windows 95, a compatible SCSI card–and of course your VS-880.

For more info about PolarSonic, VSCopy and how to get your FREE copy visit http://polarsonic.zombie.com. Once there, you'll get the full scoop on VSCopy and a new VS-880 software release, VSTransfer (see below for preview info). If you don't have Web access, e-mail PolarSonic at **polarsonic@zombie.com – or call (206) 623-9655 x16.**

Coming soon! – VSTransfer – a .WAV file exchange program for the VS-880 that lets you move files to and from the VS-880 for external processing, copy to another song or import .WAV files directly into the VS-880. VSTransfer not only greatly expands upon VSCopy with a much improved .WAV transfer interface, it features three views that are specifically designed to help you get the most out of your VS-880:

1. A Marker View, which lets you see all markers and locators available on the VS-880 – and lists which soundfiles have been transferred to/from which marker.

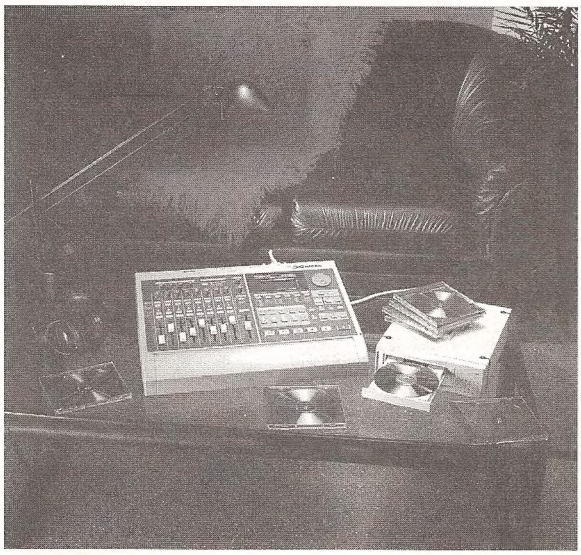
2. A .WAV View, which lets you see and hear the .WAV form you are currently working on while also allowing you to trim unwanted data.

3. The Playlist View, which lets the user see 8 of the 64 virtual tracks, complete with zooming capabilities and a timeline for navigation.

Other VSTransfer features include namable markers and the ability to track which .WAV files were transferred to/from the VS-880 - and their exact location.

Stay tuned to PolarSonic's site for release dates and purchase information for VSTransfer and other VS-880 related software.

We interrupt this broadcast to bring you...
A NEW VS-880 UPGRADE!



Brian Stark wrote us about a couple of projects he has been doing with his VS-880. His story is a great example of the success possible using aggressive entrepreneurship and a great product.

I am writing to let you know just how well your VS-880 and XP-80 perform under a deadline. A few weeks ago I had a meeting with the production manager of our No. 1 radio station here in Northern California. I took a demo that I had made using your products almost exclusively (except for the DAT master). He was quite impressed with the audio quality and could not believe that my entire "studio" fit under one arm!

Two days after leaving my demo, they called back and requested a remix with a few minor changes. With the VS-880 it was a piece of cake! That machine is the single greatest recording product to come down the pike since I've been recording (18 years).

This story has a VERY happy ending. Upon completing the remix and delivering it, I was informed that the A.E. thought my product was way beyond your everyday "broadcast" quality. They also loved the jingle and bought it! I am now employed as a full-time writer/producer of music for broadcast THANKS TO ROLAND and my measure of talent.

We called Brian to get his permission to use the letter. He informed us that there had been some more developments. Along with a couple of other artists, he produced a tribute to a local bass player who had suddenly died. The product, "Shadows on the Wall," sounded so good it was picked up by all of the major record stores in Northern California. Since then, he has also been approached by several artists, has started his own label, purchased another VS-880, and is now producing the next album by Barry Cowsills from the group the Cowsills. Barry chose Brian over several major recording studios based on the quality of the sound he heard on Brian's work.

Thanks and best of luck to Brian!

Yes indeed, there is yet another big upgrade for the VS-880. This latesthardware/ software upgrade brings VS-880 owners the final tool they need to completely control the production of their music: CD recording right from the VS-880's SCSI buss.

What's it Called?

Roland is offering this powerful new CD recording system as the "VS-CDR-S2" upgrade ($695 suggested retail price). It requires prior installation of "V-Xpanded" software, so be sure that you either own a "V-Xpanded" 880 or that you have already installed VS-880-S1 software. (For those who wish to purchase the VS-880 workstation and the CD recording system upgrade in one complete "super studio" package, the VS-880CDR bundle is also offered for $2995.)

What Does it Include?

The VS-CDR-S2 includes:

- A powerful multi-session 2x write/ 6x read CD recorder. This recorder can also be used with your PC or Mac as a CD-ROM drive, a photo CD drive and an audio CD player.
- A SCSI cable to connect the recorder with your VS-880.
- Two blank CD-R discs.
- A Zip disk with the new software for your VS-880.
- Toast software for the Mac and EZ CD Pro software to use with your PC. These software packages allow you to burn CDs from your computer, archive your computer files, and do CD cloning on your computer.

How Does it Work?

The CD recorder and the VS-880 communicate via the SCSI buss. The new software gives you the commands to set Track Markers and control recording and playback of the CD recorder. Since the recorder is "multi-session," you can record a whole CD at once, or just a song or two at a time. Once you have finished recording all of your songs, you then "finalize" the CD. This writes the Table of Contents and the CD is then playable on any standard CD player.

CDs are recorded digitally from an interleaved stereo track. To accomplish this, the VS-880 must first make an image file that is the correct digital format. It can make this file from any two tracks contained in a song of any recording mode. You can even mix modes for different songs.

Final Control

Having the power to record your own CDs gives you another way to have control over your music. Burn a CD of your mixes and then play it in many different listening environments. Make some CDs and give them away as presents or sell them at your gigs. It's a much more accurate way to assess your mixes than using a cassette. And, of course, a CD is a much better demo medium than a cassette. It shows you mean business, is an easy format for anyone to play back, and doesn't interfere with the sound of your music. The next Track Notes will include some tips and hints on recording your own CDs using the VS-880.

Internet Connections

The VS-880 Users Group is at it again. They're taking up the cause suggested by Paul Thuriot in our last newsletter: writing and sharing song ideas via mail. It's called the "Global Zipper Challenge." Groups of about eight owners are forming to create "chain letter" songs. The first person starts with some lyrics, chord changes or some basis for a song. The material gets archived on a Zip and passed to the next person. The second person adds some parts and then passes it on. (Didn't something like this bring down the government in Albania?)This sounds like a fun way to experiment with the VS-880. For more information, subscribe to the users group at:
http://www.mooncafe.com/lists/vs880.html

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THE DEBUT OF THE VS-840

By now you may have seen some press on Roland's new VS-840. The 840 is designed for the user who might not need all of the power of the VS-880, but still wants to take advantage of 64 virtual tracks, onboard digital effects, digital mixing and great sound quality.

As a VS-880 owner, the VS-840 might be of interest as a track expander. The VS-840 has a digital output which can be routed to the digital input of the VS-880. Using MMC, the VS-840 can be used as the master so that you can have more tracks for recording and playback. The VS-840 data is compatible with the VS-880 and the interface will be familiar to a VS-880 owner. The retail price is $1,395, so it's an inexpensive way to add on some more tracks to your base VS-880.

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